

ABSTRACT OF THE DISCLOSURE

A p-type impurity layer is formed in an n-type semiconductor substrate. Since the p-type impurity layer has a low impurity concentration and a sufficiently shallow depth of 1.0  $\mu\text{m}$  or less, the carrier injection coefficient can be reduced. In the p-type impurity layer, a p-type contact layer of a high impurity concentration is formed for reducing a contact resistance. Since the p-type contact layer has a sufficiently shallow depth of 0.2  $\mu\text{m}$  or less, it does not influence the carrier injection coefficient.

Further, a silicide layer is formed between the p-type contact layer and an electrode such that the contact-layer-side end of the silicide layer corresponds to that portion of the p-type contact layer, at which the concentration profile of the contact layer assumes a peak value. The silicide layer further reduces the contact resistance.